The Economics of Non-Governmental Organisations[*]

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Keywords: Microeconomic Analyses of Economic Development, Formal and Informal Sectors, Non-Governmental Organisations, Institutional Arrangements, Non-Profit Institutions, Altruism.

JEL classification: O12, O17, L31, D64

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THE ECONOMICS OF NON-GOVERNMENTAL ORGANISATIONS

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Abstract

The purpose of this paper is to identify the organisational comparative advantage of NGOs, and to develop a model which explains the set of circumstances under which they emerge and dominate other types of firms. It is argued that the potential superiority of NGOs derives from two features: (1) the creation of an institutional environment within the firm which selectively attracts altruists, who have a lower supply price of effective labour than egotists, and (2) the ability to develop efficient technologies for converting the revelatory and productive effort of their staff into local outputs which are highly valued by the target group of beneficiaries.

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I. INTRODUCTION

The upsurge of non-governmental organisations (NGOs) as one of the key players in development is one of the distinctive features of the last fifteen years. In 1983/84 the value of grants by private voluntary agencies to developing countries was nearly 2.5 billion US dollars, increasing to nearly 5 billion dollars in 1997. The official contributions to NGOs from bilateral assistance, negligible in the 1980s, rose to 1.04 billion in 1994 (OECD, 1995). These figures do not include the contribution to NGOs from multilateral organisations and the direct contribution of bilateral assistance to South based NGOs. Smillie and Helmich (1993) estimate the total annual contribution to NGOs between nine and ten billion dollars.

The aim of this paper is to contribute to an understanding of the economic rationale of NGOs. Why do these organisations exist? What are their specific features and comparative advantage *vis-à*-vis private firms and governmental agencies?

The literature on non-profit organisations, which preceded the literature on NGOs, made a substantial effort in clarifying the scope of these organisations. A key feature of non-profits is that they are constrained from distributing their net earnings, if there are any, to individuals who exercise control over them, such as members, directors or trustees (Hansmann, 1980: 838). They do not maximise profits and, because they are not part of the public sector, they are not dependent on the political process. In many countries they are also exempt from taxes on corporate income and may receive a variety of direct or indirect subsidies.

NGOs can be regarded as a *sub-set* of the non-profit sector. Typically they carry out activities related to development assistance, international disaster relief and human rights in developing countries.[1] Clearly, they are not the only types of non-profit firms. Organisations that promote cultural activities, professional societies, religious groups and clubs of various types are also part of the non-profit sector but they are not necessarily NGOs.

Far more important than its share in the total flow of financial resources to developing countries is its qualitative role in promoting new ideas and practices, co-ordinating development initiatives and influencing governments. Although the role of NGOs remains controversial, there is increasing support for the view that they are more efficient than public organisations in reaching the poor, and more flexible and innovative. The World Bank and a number of multilateral and bilateral organisations have started programmes to finance and work with NGOs. In 1973 only 6% of World Bank projects involved NGOs. Twenty years later, this share had increased to 30% (Valderrama 1995).

[1] On the definition of NGOs see Mackeith (1993), Clark (1991: 34-35), Farrington and Bebbington (1993: 3-5), and Hulme and Edwards (1997:21). The most systematic studies on the definition of the non-profit sector are those of Salomon and Anheier (1992a, 1992b and 1997).

The paper is organised as follows. Section II compares the main features of NGOs *vis*-à-*vis* for-profit organisations and public agencies, and reviews briefly the concept of altruism. Section III presents the basic features of the model, which is developed in sections IV and V to take into account long-run considerations and an analysis of the development technology of NGOs. Section VI concludes.

II. NGOs, FOR-PROFIT ORGANISATIONS AND PUBLIC AGENCIES

In order to explain why NGOs exist, it is necessary to show why they are superior both to for-profit firms and to public agencies. These questions were first addressed by the literature on non-profit organisations, which can be traced to the late 1970s and 1980s. This theory was greatly influenced by the Program on non-profit organisations launched in 1977 by the University of Yale.[2] In the first two parts of this section we summarise some of the main arguments of the literature. In the third part, we discuss the concept of altruism, which plays a particular role in the model developed in the next section.

NGOs vis-à-vis for-profit organisations

If the quality of output is difficult to measure and if contracts are difficult to enforce, the non-profit organisational form may act as a signal assuring donors that quality will not be sacrificed for private gains. Henry Hansmann (1980, 1987 and 1996) has argued that this signal is credible because of the non-distribution constraint that prevents individuals from claiming a share of the profits.

> "The problem with the services delivered by organisations such as CARE and Oxfam... is that the individuals to whom the services are provided are far removed from, and generally unknown to, the contributors who pay for the services... An investor-owned counterpart to CARE or Oxfam would have great difficulty convincing prospective contributors that it could be trusted to perform the services it promises... The solution commonly chosen is therefore to organise the firm as a fiduciary entity that is operated on behalf of, but not by, its customers." (Hansmann, 1996: 230).

However, the non-distribution constraint is difficult to enforce by either the donors or any third party through monitoring followed by (if necessary) recourse to the courts. Therefore, donors need an alternative enforcement mechanism if they are to prefer contracting with a NGO to contracting with a for-profit firm.

An ideal alternative would be one in which the staff of NGOs had the incentive to enforce the non-distribution constraint themselves. They would be most likely to do this if their behaviour was motivated by factors other than self-interest. So, if NGOs are more likely to be staffed by altruists than are for-profit firms, donors may prefer to contract with NGOs because they believe that the latter's objectives are closer to their own than are the objectives of for-profit firms.

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[2] Good surveys on this literature include Rose-Ackerman (1986, 1996), Hansmann and Steinberg (1987), Weisbrod (1988), Anheier and Seibel, Eds. (1990). A seminal paper is Hansmann (1980).

This congruence hypothesis suggests that donors and NGO staff have a common commitment to raising the welfare of a selected target group of beneficiaries among the poor.[3] This expectation of a shared commitment provides donors with some assurance that the non-distribution constraint will be (self-) enforced and that an incentive-compatible solution to the principal-agent problem is in place. This implies that it may be differences in organisational behaviour derived from underlying differences in individual motivation rather than ownership differences *per se* which are the source of NGOs comparative advantage vis-à-vis for profit firms.[4]

This line of reasoning gives rise to a further question. If the comparative advantage of NGOs lies in their abiding by a non-distribution constraint that is self-enforced by altruistic staff, what selection process ensures that altruists are recruited by NGOs while non-altruists are employed by for-profit firms? The simple model set out in section III explores the conditions under which such a matching of particular type of individual to particular types of firm might be expected to occur.

NGOs vis-à-vis public agencies

The most compelling argument to explain why non-profit firms may complement or replace public agencies in developed countries rests on the undersupply of a public good to a group of citizens whose demand for the good exceeds that of the median voter (Weisbrod, 1988). However, this argument needs to be amended in three ways in order to account for the existence of NGOs in developing countries.

Firstly, in many developing countries where both NGOs and state agencies produce local public goods and/or supply certain private goods at subsidised prices, governments have not been voted into office by a majority of citizens and do not appear overly accountable to the public. The presence of such predatory states gives rise to much higher levels of excess demand for goods/services usually provided by the public sector than is the case in developed countries.

Secondly, in societies characterised by high degrees of economic inequality, it might be expected that since the median voter is likely to have a relatively low income, the supply of public goods and the level of state expenditure on health and education would reflect closely the preferences of poorer groups. However, there is evidence that, among those eligible to vote, the rural poor are less likely than the rural non-poor to register as voters, and that among registered voters, the rural poor

[3] The term 'congruence hypothesis' is used in preference to the 'trust hypothesis' (Ortmann and Schlesinger, 1997) because it makes explicit *why*, in the absence of reputation considerations, trust is more likely to exist between donors and NGOs than between donors and for-profit firms.

[4] The primacy of motivation over ownership was vigorously argued twenty years ago by a leading authority on comparative economic institutions. "...motivation is not uniform among men, even as a first approximation. Institutions are changed, and blood is shed, in order that this or that doctrine of economic motivation be fulfilled. Beside this subject, property, equality, growth and full employment take second place." (Wiles, 1977: 15).

are less likely than the rural non-poor to vote. Therefore, as a result of this process of political self-exclusion, the divergence between the preferences of a representative member of the poor and the *ex post* median voter may be large which creates considerable economic space for a 'third sector' to exist, particularly when this demand is made effective through the receipts by NGOs of donations from external patrons.

Thirdly, some governments in developing countries may be unable to reach the poor, despite their willingness to do so, because of lack of resources and the fragility of the state.

Altruism

Altruism is an elusive concept in theory and may be difficult to identify empirically. In order to avoid the charge of naivety, it may be useful to review certain types of behaviour, which may be wrongly identified as altruistic before setting out the model. An action observed in one period which appears to be altruistic may be more plausibly explained as one stage in an infinitely repeated game where one player is seeking to induce the other player to adopt a strategy of reciprocal co-operation. Such behaviour is consistent with selfish motivation because it may maximise the expected discounted pay-off to the player in a repeated game.

Even outside the context of repeated games, an individual may behave in a way that appears altruistic, although it is simply a short-run cost paid to secure some larger long-run benefit. Thus, it might be that some voluntary work is undertaken in the expectation that it will increase the probability of obtaining a highly paid job in the future. The significance of a transfer from one person to another may also be misunderstood outside the wider context of interpersonal relations in which it is embedded.

The warm-glow theory of charitable giving implies that donations may not be unilateral transfers, but the price paid by donors to acquire a particular type of private good. The act of 'giving to the poor' provides psychic satisfaction to the donor (Andreoni, 1990). Evolutionary models demonstrate how altruistic qualities, such as heroism and trust may have survival value (Rose-Ackerman, 1996: 712-713).

In this paper we define altruism as a concern for the well being of others. This means that one of the arguments in the utility function of an altruist is the utility function of the beneficiaries. This does not rule out the possibility that some 'altruistic' actions may be motivated by the desire to accumulate human capital, to assuage a sense of guilt, or to satisfy certain 'egoistic' preferences (in the sense of Andreoni's (1990) impure altruism). There are two related components in our working definition of altruism (see below): (i) a 'warm glow' (the personal and direct satisfaction derived from devoting effort in favour of the beneficiaries), and (ii) a

'general altruism' (the indirect increase in utility resulting from an improvement in the beneficiaries' welfare).

III. THE MODEL

It was argued above that the comparative advantage of NGOs *vis*-à-*vis* for-profit firms might lie in their abiding by a non-distribution constraint that is self-enforced by altruistic staff. If this is true, what selection process ensures that altruists are recruited by NGOs while for-profit firms employ non-altruists? In this section, a model is developed to identify the simplest set of conditions under which heterogeneous individuals would self-select the type of firm for which they wished to work. This allows the special circumstances to be singled out in which NGOs would come into existence because of a competitive advantage derived from the motivation of the staff they recruit. The argument is reductionist in the sense that it focuses on situations where an organisation's superior efficiency (defined as having lower unit costs of quality-adjusted output) results from the personal attributes of its staff.

The institutional context consists of a three-rung hierarchy made up of (i) an external donor; (ii) a firm (for-profit, NGO or public agency), and (iii) a target group of beneficiaries. The external donor makes a grant to the recipient country to increase the welfare of the beneficiaries. This grant is of sufficient size to fund the activities of two firms that supply goods/services to the target group. All the firms' revenue comes from this grant. The beneficiaries do not pay for the good/services supplied by the firms. Therefore, it is not of great importance whether the firms supply a private or a public good. The focus is on a comparison between a NGO and some other type of firm, whether for-profit or a public agency. For simplicity the NGO is compared with a public agency. The model aims to show what types of firm will emerge in the industry under different sets of assumptions. If one type of firm can be shown to be more efficient than the other, then the model predicts it will dominate the industry in the long run.

Initially, it is assumed that the donor has imperfect information regarding the welfare of the beneficiaries, but firms know beneficiaries' welfare costlessly. This assumption is relaxed in the following sections. The recipient economy, where both the firms and the beneficiaries are located, contains two individuals in addition to the members of the target group (these two individuals are not members of the target group of beneficiaries). The altruist, *A*, cares not only about her own income per year, *w*, and her own effort, *e*, but also about the beneficiaries' welfare, U^B. Her utility function is therefore defined by,

$$U^A = U^A(w, e, U^B) \;; \qquad U^A_w, U^A_{U^B} > 0 \;; \qquad U^A_e \gtreqless 0 \qquad (1)$$

The sign of the marginal utility of effort is indeterminate because an altruist might not experience a negative marginal utility of effort over the whole range of effort. If she values positively her own individual contribution to an organisation in addition to valuing beneficiaries' welfare, then the marginal utility of effort could be zero or

even positive over some range. The inclusion of a 'warm glow' component to altruism is incorporated as a particular type of firm-specific non-pecuniary benefit offered by NGOs.

The egotist, *S*, cares only about her own income, *w*, and effort, *e*. Her utility function is defined by

$$U^S = U^S(w,e) \;; \qquad U^S_w > 0 \;; \qquad U^S_e < 0 \qquad (2)$$

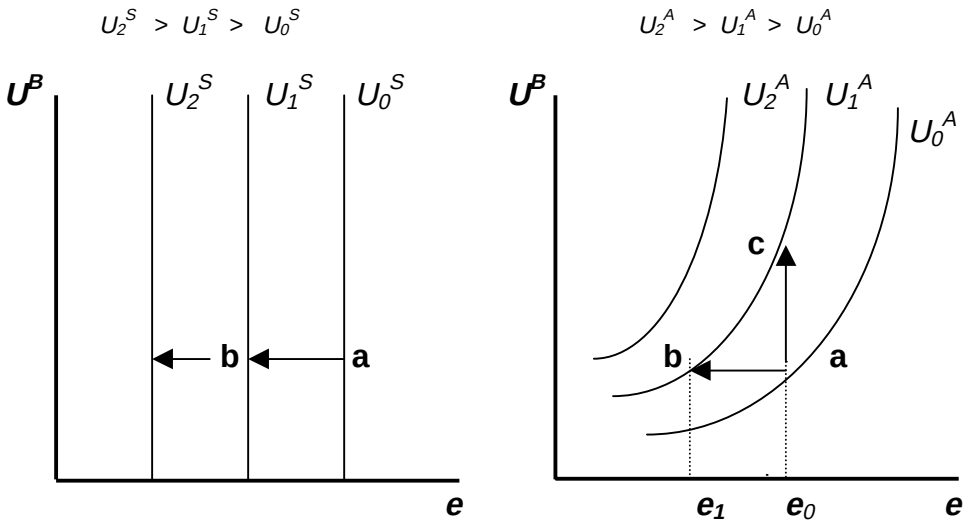
These utility functions are illustrated in Figure 1 in (U^B, *e*) space. For the egotist a reduction in the level of effort increases her welfare, and she is indifferent to any increase in the utility of the beneficiaries. Things are different for the altruist. She also welcomes a fall in the level of effort (e.g. a movement from **a** to **b** in figure 1), but the same increase in her utility can be achieved through a rise in the welfare of the beneficiaries (e.g. a movement from **a** to **c**).

There are two types of economic organisation in the recipient economy: NGOs (denominated by *n*) and public agencies (denominated by *g*). Each firm employs one person and converts the effort of its staff, *e*, into the welfare of its beneficiaries, U^B via a development technology given by

$$U^B = U^B(e,X) \;; \qquad U^B_e, U^B_x > 0 \;; \qquad U^B_{ee} < 0 \qquad (3)$$

where *X* is a vector of other determinants of beneficiaries' welfare. For the time being, this development technology remains a black box although it is opened up later, in section V.

Figure 1: UTILITY FUNCTIONS



Egotist **Altruist**

In both firms, the staff is required to work for a minimum number of hours per week (e_{min}) for which they are paid a fixed wage, *w*. If they work beyond this minimum, employees receive no additional remuneration. The wage bill is the only cost of

production in each firm and is financed entirely through a transfer from the external donor.

It is now possible to explore the emergence of NGOs as the outcome of the matching process between types of individuals and types of firms. Within this framework, institutions (the number of NGOs and public agencies) are *endogenous*, as they come into existence as a result of this interaction between individuals and firms.

Two phases are distinguished in the development of NGOs. In the first 'experimental' phase, the institutional form in which development programmes are carried out (i.e. public agencies or NGOs) is determined by the relative level of wages, technology and the preferences of individuals working in these programmes. At this stage, donors are indifferent about the type of institution they finance, as long as the money given supports development activities in the recipient economy. In the second 'competitive' phase, donors decide which type of organisation to finance taking into account cost-effectiveness and resource constraints.

Although highly stylised, these two phases broadly reflect the historical pattern of NGO growth. Up to the 1980s, the emergence of NGOs was largely a spontaneous and unplanned process with little attention given to monitoring and evaluation. This situation has been changing since the 1980s (particularly after the debt crisis) with greater attention given to monitoring, impact assessment, and a comparative analysis of various organisational forms.[5]

This section presents the process of generation of NGOs during the first 'experimental' period. [6] The second phase will be discussed in the following section. Four sets of circumstances are considered: (i) both firms share the same development technology and offer the same wage; (ii) the technology is the same across firms but wages are different; (iii) both firms offer the same wage, but have different technologies, and (iv) technologies and wages are different across firms.

Identical technologies and wages

When both firms possess the same technology (T), offer the same wage (W), and require the same minimum level of effort from their staff, which organisation will the altruist (A) and the egotist (S) wish to work for? If working for the NGO (and *only* working for the NGO) produces a warm glow for the altruist then the egotist will be indifferent between the two types of firm, but it is more likely that the altruist will work for the NGO.

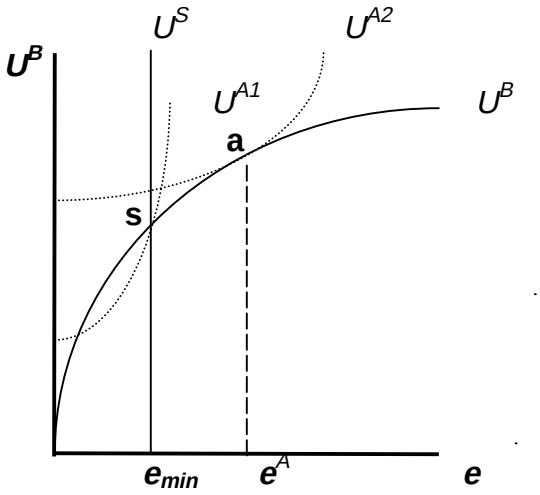
[5] There are, of course, important exceptions. Some development programmes are still in the first phase and others, though a small number, moved into the second phase well before 1980.

[6] A more formal treatment of the results in this section of the paper can be found in Appendix A.

The egotist will be indifferent between the two types of firms because wages are identical. It will be assumed, however, that where the egotist is indifferent between the two types of firms she works for the public agency. This assumption is adopted in order to generate more determinate results, and to make it harder for NGOs to emerge. This makes the task of the paper more difficult, but provides some protection against the criticism that the analysis is biased in favour of NGO emergence.

The altruist is likely to work for the NGO because when she works for this type of firm she benefits from a warm-glow effect. This is illustrated in Figure 2, which shows how much each individual (*S* and *A*) chooses to work. Since this case assumes identical technologies in the two types of firm, the U^B function is common to the public agency and the NGO. The shapes of the altruist's indifference curves, however, are affected by the type of firm the altruist works for. When she works for a NGO she would benefit from a warm glow effect, which has the consequence of making the slope of U^A flatter.[7]

Figure 2: CHOICE OF FIRM AND OPTIMUM LEVEL OF WORK



Identical technologies and different wages

In this case, both firms possess the same technology and require the same minimum level of effort from their staff, but offer different wages. If NGOs paid the higher wage, neither the altruist nor the egotist would be willing to work for the public agency, which would not exist. Both individuals would work for NGOs, of which there would be two in the economy. If the public agency pays a higher wage, the egotist would definitively work for a public agency. The position of the altruist is indeterminate. If the warm-glow effect more than compensates for the lower wage,

[7] Even in the case of a corner solution the altruist would prefer working for a NGO because of the warm glow effect. See Appendix A.

she would work for the NGO. In this case, the efficiency advantage of the NGO over the public agency would be particularly marked because it raises beneficiaries' welfare by more than the agency and it does so for a smaller wage bill. If the warm glow effect did not compensate for the lower wage, the altruist would prefer employment with the public agency, and two public agencies would result.

Identical wages and different technologies

In this case, both firms offer the same wages, but possess different development technologies. Suppose that the NGO has a superior technology, in the sense that for any given level of staff effort the NGO achieves a higher level of beneficiaries' welfare. Under these circumstances, the egotist will be indifferent between the two types of organisation, so will work for the public agency (by assumption). However, the altruist would always prefer employment with the NGO because for a given level of effort the NGO is able to obtain a greater level of welfare for the beneficiaries, something about which she cares.

If the public agency had the superior technology, the egotist would continue to remain indifferent between the two types of firm and would work for the public agency. The position of the altruist is indeterminate. The larger the technological gap between the two types of firm, the less likely it would be that the warm glow effect experienced by the altruist in the NGO would compensate her for operating on an inferior production function.

Different wages and different technologies

This case covers four possibilities, as set out in Table 1. If wages and technology are higher in the NGO, both the egotist and the altruist will prefer to work there. The former will choose to do so because wages are higher, while the latter will do so because in addition to $w_g > w_n$, a given level of effort produces a higher level of utility for the beneficiaries in the NGO. If both wages and technology are higher in the public agency, two public agencies may result, but this is not the only outcome in this case. It is possible that one public agency and one NGO may emerge if the warm-glow derived from working in the NGO is sufficiently strong to offset the superior technology and wages in the public agency.

If NGOs pay higher wages but have an inferior technology, the egotist will work for the NGO and at least one NGO will result. If public agencies pay higher wages but have an inferior technology, at least one public agency will result.

The overall results of the analysis, which are rather indeterminate, are shown in Table 1. Where an NGO pays relatively high wages, or enjoys technical superiority over other types of firm, there will in general never be less than one NGO in the 'poverty industry'. However, this indeterminacy is consistent with the first phase in the development of NGOs outlined above, in which both NGOs and poverty-oriented public agencies emerged and expanded without showing any

clear patterns of development. This situation changed in the 1980s when donors were pressed to introduce harder budget constraints and began to assess the comparative advantage and effectiveness of various types of anti-poverty organisations.

Table 1: THE EMERGENCE OF NGOs AS THE RESULT OF A CHOICE OF INDIVIDUALS BETWEEN DIFFERENT TYPES OF FIRMS

	Tn > Tg	Tn = Tg	Tn < Tg
Wn>Wg	2 NGOs	2 NGOs	At least 1 NGO
Wn=Wg	1 NGO, 1 PA	1 NGO, 1 PA	At least 1 PA
Wn<Wg	At least 1 PA	At least 1 PA	At least 1 PA

T: Technology; W: Wages; NGO: Non-governmental organisation;
PA: Public Agency; See Appendix A for a formal derivation of these results.

IV. COST EFFECTIVENESS

The results presented in the previous section cannot be interpreted as a long run equilibrium. In situations where both types of firm co-exist in the industry, but one type is more efficient than the other, the less efficient firm is likely to be forced out of the industry. Several cases were identified in the previous section where the NGO was the more efficient firm and could be expected to dominate the industry in the long run. Where donors seek cost-effectiveness they will only fund the more efficient type of firm.

In order to examine the implication of moving from the short to the long-run each of the results summarised in Table 1 has been analysed to establish which type of organisation provides better ‘value for money’, defined as achieving a higher level of beneficiaries' welfare for a given wage bill.

Take the case of identical technologies and wages. It was concluded in the previous section that one NGO and one public agency would result in the short run. The altruist would choose to work in a NGO because of the warm glow provided by this type of organisational environment. The egotist would be indifferent because both pay the same level of wages. However, in the long run the NGO would dominate because it produces a higher level of beneficiaries' welfare for a given wage bill, and so is more cost-effective.

An interesting feature of this result is that it may be undermined by the existence of a corner solution. In such a case, when the effort constraint is binding for the altruist, as at point **s** in Figure 1, she would still choose to work in a NGO because of the warm glow it provides. However, in the long run the donor would be indifferent between the two types of organisation as each produces the same level of output for a given wage. Therefore, neither type of firm is dominant.

The long run outcomes in the other cases are less controversial and are summarised in Table 2[8]. Generally, NGOs dominate if they have the same or better development technologies than public agencies, as long as wages in NGOs are at least equal to those paid by public agencies. NGOs paying lower wages may dominate if their technology and the warm glow effects are strong enough to outweigh the wage differentials.

The situation is different when public agencies have a better development technology. Under such conditions, the results are indeterminate.[9] It is interesting to note that in these cases the *level* of altruism plays a key role in defining the results[10]. In general, the 'hotter' is the glow and the stronger is the level of general altruism, the higher is the probability of the emergence and persistence of a NGO.

Table 2: FIRM TYPES AND INDIVIDUAL MATCHING IN DIFFERENT SCENARIOS: THE LONG RUN

	Tn > Tg	Tn = Tg	Tg > Tn
Wn>Wg	NGO	NGO	?
Wn=Wg	NGO	NGO *	?
Wn<Wg	?	?	?

* Indeterminate in the case of a corner solution.

The indeterminacy of the results in the last column of Table 2 highlights the importance of looking more closely at the characteristics of the development technology of NGOs. If the circumstances under which NGOs have a superior development technology could be identified, one could be more precise about the conditions under which NGOs should dominate development programmes.

So far, the only feature that distinguishes NGOs from public agencies is that *ceteris paribus* they provide a more congenial environment for altruists (the λ term in equation (1a)). When working for NGOs, altruists value their own individual contribution because these organisations generally have a decentralised structure and work closer to the beneficiaries. But, is this the only basis for NGO's comparative advantage? In order to answer this question, the black box of development technology must be opened. This is done in the next section of the paper.

[8] See Appendix B.

[9] They may also be paradoxical. If the NGO pays higher wages but has a lower development technology (case 3 in Appendices A and B), a public agency may arise if the warm glow effect and the wage premium provide an insufficient incentive to attract the altruist given the difference in technology. In this case, the public agency would be staffed by the altruist, while the NGO with which it coexists in the short run would be staffed by the egotist .

[10] As measured by the values of θ and λ in equation (A1) in Appendix A.

V. DECOMPOSING DEVELOPMENT TECHNOLOGY

It was assumed in sections III and IV that donors are imperfectly informed about the target group's utility, but firms know beneficiaries' welfare costlessly. The argument is now extended by dropping the assumption of perfect information by firms of beneficiaries' welfare. Instead, it is assumed that initially neither the NGO nor the public agency knows the true preferences of the beneficiaries, but by spending resources in the form of staff effort they are able to reveal these preferences more clearly. Exploring the implications of imperfect information by firms of beneficiaries requires a decomposition of 'development technology' into two elements: a revelation of preferences function, and a conventional firm-level production function.

In the non-profit literature, the discussion of imperfect information focuses on the difficulty faced by donors and consumers of establishing the quality of the product. Non-profit firms are preferred to for-profit firms because donors/consumers are assured by the self-enforced non-distribution constraint in non-profits that product quality in non-profits will be higher. Such considerations are also likely to be relevant for NGOs in developing countries, but here we focus on a different informational asymmetry of particular importance when goods are not sold, so that consumers cannot express their preferences in the market, and where the formal political mechanisms for citizens to express their wishes are weakly developed, so that voters cannot indicate their preferences for public goods via electoral means. This type of informational asymmetry commonly afflicts the rural poor in developing countries.

In this extension of the model, beneficiaries' utility is defined over two public goods [X_1, X_2] that are produced through a combination of beneficiaries' inputs, such as labour, that are exogenous, and the efforts of the firm's staff. $U^B = U^B(X_1, X_2) = X_1^h X_2^j$, and $X_1=X_1(e^p,K)$; $X_2=X_2(e^p,K)$ where K are beneficiaries' inputs, and e^p is the staff effort allocated to producing goods. The firms cannot observe $U^B(.)$ directly but they can form a perception of U^B which is defined as $U^{\hat{B}}(X_1, X_2) = X_1^{\hat{h}} X_2^{\hat{j}}$ where $\hat{h}$ *and* $\hat{j}$ are estimates of *h* and *j*. The accuracy of the firm's perception of $U^B(.)$ can be improved by its staff holding meetings with grassroots organisations and/or interacting informally with beneficiaries.[11]

Thus, a firm can improve the beneficiaries' welfare in two ways. Firstly, it can spend time (e^r) interacting with beneficiaries so as to reveal the latter's preferences more clearly. This information can then be used to improve the allocation of the remainder of their time (e^p) as between the production of X_1 and X_2. By 'improved allocation' is meant an allocation more consistent with the beneficiaries' true preferences. e^r represents a use of staff time which raises beneficiaries' welfare indirectly.

[11] That is $\hat{h} = \hat{h}(e^r)$ such that $(h-\hat{h}) = g(e^r)$, with $g'(e^r) \leq 0$, and $\hat{j} = \hat{j}(e^r)$ such that $(j-\hat{j}) = v(e^r)$, with $v'(e^r) \leq 0$.

Secondly, a firm can allocate staff time to increasing the supply of X_1 and X_2 without improving the accuracy of their perception of beneficiaries' preferences. In this case, e^p represents staff effort used to raise beneficiaries' welfare directly. Each firm faces a staff effort constraint given by $e = e^r + e^p$. The formal derivation of the optimal allocation of revelatory and productive effort by a firm is given in Appendix C.

Within this framework, it is clear that the NGO (*n*) has a superior development technology to the public agency (*g*) if one of the following conditions holds:

(i) Revelation efficiency: for a given level of staff effort allocated to revelation, the NGO forms a more accurate perception of beneficiaries' preferences (utility) than the public agency. That is, the NGO's estimates of the values of *h* and j are closer to the true values of the beneficiaries. The literature on NGOs suggests that they have often been highly successful in revealing the priorities, needs and preferences of the rural poor.

(ii) Production efficiency: for a given level of staff effort allocated to production, the NGO produces a higher level of X_1 for a given level of X_2 and vice versa, than the public agency.

Why and how might an NGO be more efficient in raising the target group's welfare than a public agency? In particular, what does it mean to suggest that NGOs might be more 'revelation efficient' than a state organisation?

In order to try and answer these questions, it may be useful to compare the argument in this section with discussions of preference revelation from the viewpoint of a Platonic social planner wishing to design a mechanism for supplying public goods which meets a set of desirable criteria such as Pareto efficiency, incentive compatibility, individual rationality, equity and the nature of equilibrium strategies. A key element in mechanism design is to provide incentives to individuals to reveal their preferences regarding public goods truthfully. Many ingenious schemes have been elaborated, but all of them fall short of meeting all the desiderata. This appears to demonstrate the robustness of impossibility theorems in this branch of Economics.[12]

According to this approach, superiority in preference revelation must mean that an organisation has developed a mechanism that fulfils a larger number of desirable ex ante criteria than mechanisms adopted by competing organisations. This is too bold a claim to advance for all NGOs. Nevertheless, in some cases, these organisations have developed forms of participatory interaction with beneficiaries for articulating and aggregating local preferences that constitute genuine

[12] A good review of the mechanism design literature for supplying public goods may be found in Cornes and Sandler (1996: 143-239).

institutional innovation and give practical expression to certain abstract ideas found in the theoretical literature.

Even if NGOs have not in general discovered some magic design mechanism, there may be more practical reasons to explain their superiority in preference revelation as compared to public agencies. Many NGOs recruit field-staff from among members of target groups, which may facilitate communication and assist in the creation of trust between beneficiaries and the intervention agency. This is likely to be of particular importance when the target group is an ethnic minority, or is otherwise distinguished from the majority of the population. Furthermore, NGOs' offices or their representatives are often located closer to where beneficiaries live than in the case for public agencies. Greater proximity may be interpreted by beneficiaries as a sign of greater commitment by the intervention agency as well as aiding communication between them.

It could be argued that NGOs' greater revelation efficiency has a much simpler explanation which derives from a fundamental asymmetry in social relations between the state and a set of local beneficiaries on the one hand, and an NGO and its target group on the other. While NGOs merely *give* or transfer resources to local populations, the state both give and *takes* (in taxes).[13] If beneficiaries feel that any revelation of preferences to a public agency might increase their future tax burden, then it is hardly surprising that NGOs elicit more complete information from any target group than would the government.

While this argument may have a grain of truth, it is not wholly compelling. Although it is true that NGOs have no formal tax-raising powers, it is no less true that many of the most successful NGOs require resource contributions from their beneficiaries. These contributions may take the form of unpaid labour which combines with material inputs provided by the NGO to create a project, or compulsory saving by members of a micro-credit scheme which is equivalent to a local tax.[14] However, unlike a standard tax, resource contributions *from* the beneficiaries of an NGO-led project generate benefits *to* target group members directly and within a relatively short period of time.

Finally, the possession of a superior development technology by NGOs compared to the state needs to be understood in the wider economic, social and political context of isolated and deprived rural areas. This context differs considerably from the socio-political environment assumed in most of the public economics literature. As discussed in section II, rural areas in developing countries are not always characterised by political stability, the rule of law and well-defined property rights in land and other natural resources. In an atmosphere of at best considerable mistrust, and at worst outright fear by the rural poor regarding the motives of the state for launching initiatives in deprived areas, NGOs may be better placed to establish credibility and win the trust of local populations.

[14] Albeit a tax generating revenue which remains partially under the control of the taxpayer.

VI. CONCLUSIONS

This paper has argued that the potential superiority of NGOs derives from two features: (1) the creation of an institutional environment within the firm which selectively attracts altruists, who have a lower supply price of effective labour than egotists, and (2) the ability to develop efficient technologies for converting the revelatory and productive effort of their staff into local outputs which are highly valued by the target group of beneficiaries.

Two phases were distinguished in the development of NGOs. In the 'experimental' phase, the organisational form of a development programme is determined by the interaction of staff preferences and development technologies. At this stage, donors are indifferent as to the type of institution they finance, so long as the funds support development activities in the recipient economy. In the 'competitive' phase, donors decide on grounds of cost-effectiveness which type of organisation to support. Although highly stylised, these phases reflect the typical evolution of NGOs.

The results of the matching process in the first phase were rather indeterminate. Where a NGO pays relatively high wages, or enjoys technical superiority over other types of firm, there will in general never be less than one NGO in the 'poverty industry'. However, this indeterminacy is reduced in the second phase when donors only finance the most efficient organisations. NGOs would generally dominate when they have the same or better development technologies than public agencies, and wages are similar in both sectors. They may even dominate when wages paid by public agencies are higher, if NGOs' technology is superior and the warm glow effects are strong enough to outweigh this wage differential.

The meaning of technological superiority is examined by decomposing 'development technology' into two elements: a revelation of preferences function, and a conventional firm-level production function. It is argued that these organisations have developed forms of participatory interaction with beneficiaries for articulating and aggregating local demands, which in the absence of well-defined markets and transparent electoral procedures constitute genuine institutional innovations in the revelation of beneficiaries' preferences. Many NGOs recruit field-staff from among members of target groups, which may facilitate communication and assist in the creation of trust between beneficiaries and the intervention agency. This is likely to be of particular importance when the target group is an ethnic minority, or is otherwise distinguished from the majority of the population.

The model outlined in this paper assumed that altruistic motivation and development technology were distinct and separate elements in explaining why NGOs might exist. However, it may be more plausible to suggest that firms employing altruists are more likely to search for and experiment with new

methods for transforming their effort into beneficiaries' welfare than firms employing staff with more selfish motivation. If this is the case, then the advantage of NGOs lies not only in securing high levels of effort commitment within a given technology, but also in creating an institutional environment that generates more innovation than a public agency.

Finally, the existence of asymmetric information between donors and beneficiaries which NGOs may be well equipped to overcome, has important implications. It creates an incentive to adopt the form of NGOs as a way of attracting funding. Furthermore, long-established NGOs may allow their development technology to deteriorate because their reputation is taken for granted. Such outcomes pose an important challenge to both donors and NGOs. In order to meet this challenge it is indispensable to achieve a deeper understanding of the specific features and economic rationale of NGOs.

Appendix A: FORMAL DERIVATION OF THE RESULTS PRESENTED IN TABLE 1

It is assumed that the utility function of the individuals working in NGOs and public agencies is additively separable in own income, beneficiaries' welfare and own effort,

$$\text{Altruist:} \quad U^A = (1-\theta)[w + \lambda e - e^2] + \theta U^B(e), \qquad \lambda \geq 0 \qquad \text{(A1)}$$

$$\text{Egotist:} \quad U^S = w - e^2 \qquad \text{(A2)}$$

where θ is the weight assigned by the altruist to the beneficiaries welfare and $(1-\theta)$ is the weight assigned to her own welfare, with $0 \leq \theta \leq 1$. When the altruist works for the NGO, she receives a warm glow ($\lambda > 0$), so that the marginal utility of effort is positive below some threshold level[15]. When she works for any other type of firm, effort always generates disutility ($\lambda=0$). Henceforth, θ is referred to as a measure of an individual's general altruism, while the value of λ indicates the strength of the warm glow received by the altruist when employed by the NGO.

For simplicity we assume that $U^B(e)$ takes a linear form $U^B = \varphi e$. This assumption is helpful in obtaining explicit analytical results, although it does not affect the concave shape of the altruist's utility function. Therefore, (A1) can be rewritten as

$$\text{Altruist:} \quad U^A = (1-\theta)[w + \lambda e - e^2] + \theta \varphi e \qquad \lambda \geq 0 \qquad \text{(A1')}$$

Individuals maximise their own utility and decide where to work taking into account what they receive in each type of organisation. If $U_n^{A*} > U_g^{A*}$ the altruist decides to work for a NGO. Hence, a formal analysis of this decision is just a comparison between the levels of utility received by the altruist and egotist under the various assumptions specified in Table 1.

The derivation of all the results in section III of the paper are straightforward, but for illustrative purposes we work through three of the nine possible cases. The derivation of the remaining cases, shown in Table A1, is available from the authors on request.

Where the firms have identical technology and pay the same wage (case 5 in Table A1), the optimum levels of effort are derived from equations (A1') and (A2). The altruist's optimal effort when working for a NGO is given by

$$e_n^* = \lambda/2 + \theta\varphi / [2(1-\theta)] \qquad \text{(A3)}$$

[15] The threshold level (derived from A1) is equal to $\lambda/2 + \theta U^B{}'(e) / [2(1-\theta)]$.

The value of λ is firm-specific, so when the altruist works for a public agency, $\lambda = 0$ and $e_g^* = \theta / [2(1-\theta)]$. In this case, the altruist works harder in the NGO.[16] It is also clear that $U_n^{A*} > U_g^{A*}$ given the monotonic increasing relationship between U^A and λ. Therefore, the altruist decides to work for a NGO. The same result obtains for the corner solution when $e^* = e_{min}$. In this case, the condition under which the altruist would work for a NGO is $(1- \theta) \lambda e_{min} > 0$, which holds as long as the warm glow is positive.[17] The choice of the egotist is straightforward. With both firms paying the same wage, the egotist is indifferent between them. In this case, the egotist works for the public agency by assumption (p. 9).

Where both firms have identical technologies but the NGO pays a higher wage (case 2 in Table A1), the altruist would choose to work in the NGO, because it pays higher wages and generates a warm glow effect, $(1-\Theta) \lambda e > 0$. The egotist would choose to work in a NGO. She is indifferent about the welfare of the beneficiaries, but NGOs pay higher wages. These results also hold if the altruist's optimum is a corner solution.

Where both firms use the same technology, but the public agency pays a higher wage (case 8) the maximum levels of utility received by an altruist working either for a NGO or a public agency are

$$U_n^{A*} = (1- \theta) [w_n + \lambda e^*_n - e^{*2}_n] + \theta \varphi e^*_n \qquad (A4)$$

$$U_g^{A*} = (1- \theta) [w_g - e^{*2}_g] + \theta \varphi e^*_g \qquad (A5)$$

Subtracting (A5) from (A4) and rearranging, the condition for the altruist to work for a NGO is

$$\theta \varphi(e^*_n - e^*_g) + (1 - \theta) [\lambda e^*_n - e^{*2}_n + e^{*2}_g] > (1- \theta) (w_g - w_n) \qquad (A6)$$

that is, when the effect of general altruism and warm glow derived from working in the NGO offsets the wage differential. The egotist would always choose to work for the public agency.

The outcomes in all nine cases are shown in Table A1.

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[16] This analysis assumes the constraint $e^* \geq e_{min}$ is not binding. If it is binding, both individuals would supply the same amount of effort. The altruist would still choose to work in a NGO. See next footnote.

[17] The case of a corner solution can be shown as follows. The level of utility received by the altruist when working for an NGO is given by $U_n^A = (1- \theta) [w + \lambda e_{MIN} - e_{MIN}^2] + \theta \varphi e_{MIN}$. When she works for a public agency she gets $U_g^A = (1- \theta) [w - e_{MIN}^2] + \theta \varphi (e_{MIN})$. Subtracting U_g^A from U_n^A we get $(1- \theta) \lambda e_{MIN} > 0$ which is the condition indicated in the text.

Table A1: SUMMARY OF THE RESULTS

	$\varphi_n > \varphi_g$	$\varphi_n = \varphi_g$	$\Phi_n < \varphi_g$
$w_n > w_g$	(1) 2 NGOs A to NGO S to NGO	(2) 2 NGOs A to NGO S to NGO	(3) At least one NGO A to ?[a/] S to NGO
$w_n = w_g$	(4) 1 NGO, 1 PA A to NGO S to NGO	(5) 1 NGO, 1 PA A to NGO S to PA	(6) At least one PA A to ? [b/] S to PA
$w_n < w_g$	(7)At least one PA A to ? [c/] S to PA	(8) At least one PA A to ? [d/] S to PA	(9) At least one PA A to ? [e/] S to PA

A: Altruist; S: Egotist; PA: Public agency; NGO: Non-governmental organisation;

[a/] A to NGO if warm glow and wage differential offset differences in technology.
[b/] A to NGO if warm glow offsets differences in technology.
[c/] A to NGO if warm glow and differences in technology offset wage differential.
[d/] A to NGO if warm glow offsets wage differential.
[e/] A to NGO if warm glow offsets differences in wages and technology.

Appendix B: FORMAL DERIVATION OF THE RESULTS PRESENTED IN TABLE 2

The condition for the superiority of a NGO is that benefiaries' welfare per dollar spent by the donor is higher when the project is undertaken by a NGO than when it is undertaken by a public agency. That is, $(U^B/w)_n > (U^B/w)_g$. In logs this becomes

$$\ln (\varphi_n e_n^*) - \ln (w_n) > \ln (\varphi_g e_g^*) - \ln (w_g) \qquad \text{(B1)}$$

In the interest of brevity, this appendix analyses only the same three cases as were examined in Appendix A.

Where the firms have identical technologies and pay the same wage ($w_n = w_g = w$, and $\varphi_n = \varphi_g = \varphi$) we can rewrite (B1) as $e_n^* > e_g^*$. The firm which produces more output (implying more effort) will dominate. As shown in Appendix A, the result in the first stage is one NGO and one public agency. The altruist chooses to work for a NGO, while the egotist is employed in the public agency. A positive warm glow makes the altruist work harder in the NGO. Therefore, the NGO would dominate.

However, if the effort constraint is binding on the altruist, then the level of effort would be the same in the two types of firm, and neither would dominate.

Where both firms have identical technologies but the NGO pays a higher wage (case 2 in Table A1), two NGOs would result. Which of these NGOs will dominate depends on the levels of effort committed in each firm. If the effort constraint is non-binding on the altruist, a positive warm glow effect leads to domination by the NGO staffed by the altruist. However, the result becomes indeterminate if the altruist's optimum is a corner solution.

Where both firms use the same technology but the public agency pays a higher wage (case 8), two cases should be distinguished. When one NGO and one PA arise in the first stage, the NGO will dominate because it generates higher welfare for the beneficiaries at a lower cost. This result holds regardless of whether the altruist's optimum is an interior or a corner solution. Where two public agencies arise in the first state the one with the altruist will dominate given the effect of general altruism on the level of effort.

Appendix C: OPTIMAL LEVELS OF PRODUCTIVE AND REVELATORY EFFORT

Three cases are considered: (i) the altruist working for a NGO; (ii) the altruist working for a public agency, and (iii) the egotist. In each case the formal problem is the same, namely to choose levels of revelatory and productive effort so as to maximise utility subject to an effort constraint.

- **Altruist working for a NGO**

The choice problem of the altruist is

$$\max \ \phi_{\{e^r,e^p\}} \ = \ (1-\theta)\{w+\lambda[e^r+e^p]-[e^r+e^p]^2\}+\theta X_1^{\hat{h}} X_2^{\hat{j}},$$

where the effort constraint, $e = e^r + e^p \geq e_{\min}$,has been substituted for e in the utility function. Recall that the outside agency's perception of beneficiaries' utility is $U^{\hat{B}} = X_1^{\hat{h}} X_2^{\hat{j}}$. *Furthermore,* $\hat{h} = \hat{h}(e^r)$, *such that* $(h-\hat{h}) = g(e^r)$, *with* $g'(e^r) \leq 0$, *and* $\hat{j} = \hat{j}(e^r)$, *such that* $(j-\hat{j}) = v(e^r)$, *with* $v'(e^r) \leq 0$. *In addition,* $X_1 = X_1(e^p)$,, *and* $X_2 = X_2(e^p)$.

The first-order conditions are:

$$[1] \quad \phi_{e^r} = (1-\theta)\{\lambda - 2[e^r+e^p]\} + \frac{\partial \theta\left[X_1^{\hat{h}} X_2^{\hat{j}}\right]}{\partial e^r} = 0$$

$$\phi_{e^r} = (1-\theta)\{\lambda - 2[e^r+e^p]\} + \theta\left\{X_1^{\hat{h}} \exp^{(\ln_e X_2)\hat{j}} \ln_e X_2 \frac{\partial \hat{j}}{\partial e^r} + X_2^{\hat{j}} \exp^{(\ln_e X_1)\hat{h}} \ln_e X_1 \frac{\partial \hat{h}}{\partial e^r}\right\} = 0$$

$$\Rightarrow [1a] \quad (1-\theta)\{\lambda - 2[e^r+e^p]\} = \ -\theta\left\{X_1^{\hat{h}} \exp^{(\ln_e X_2)\hat{j}} \ln_e X_2 \frac{\partial \hat{j}}{\partial e^r} + X_2^{\hat{j}} \exp^{(\ln_e X_1)\hat{h}} \ln_e X_1 \frac{\partial \hat{h}}{\partial e^r}\right\}$$

The expression on the LHS of [1a] is the altruist's marginal disutility of effort, and this is equated with her marginal utility of revelatory effort given by the expression on the RHS of [1a]. Since the altruist is not paid more for working harder, the expression inside the curly brackets on the RHS of [1a] is simply the marginal effect of the altruist's revelatory effort on changing the expected level of beneficiaries' utility as a result of gaining a more accurate estimate of beneficiaries' preferences. This marginal effect is evaluated at given amounts of X_1 and X_2 , which is equivalent to holding the input of productive effort constant. Weighting this effect by the parameter θ gives the altruist's marginal utility of effort. Note that since the sign of $\frac{\partial \hat{j}}{\partial e^r}$, $\frac{\partial \hat{h}}{\partial e^r}$ *and* $\{\lambda - 2[e^r+e^p]\}$ can be positive or negative, then the sign of [1a] is also indeterminate. Furthermore, the magnitude of the two derivatives would be expected to decline (and in the limit vanish) as the estimates of beneficiaries' preferences converge on their true

values. However, since the marginal cost of revelatory effort is in general non-zero (see LHS of eq.[1a]), a firm will never normally expend revelatory effort to the point where $\hat{h} = h \quad and \quad \hat{j} = j$.

The second first-order condition is

$$[2] \quad \phi_{e^p} = (1-\theta)\{\lambda - 2[e^r + e^p]\} + \frac{\partial \theta\left[X_1^{\hat{h}} X_2^{\hat{j}}\right]}{\partial e^p} = 0$$

$$\Rightarrow [2a] \quad (1-\theta)\{\lambda - 2[e^r + e^p]\} = -\theta\left\{\hat{j} X_1^{\hat{h}} X_2^{\hat{j}-1} \frac{\partial X_2}{\partial e^p} + \hat{h} X_2^{\hat{j}} X_1^{\hat{h}-1} \frac{\partial X_1}{\partial e^p}\right\}$$

The expression on the LHS of [2a] is the altruist's marginal disutility of effort, and this is equated with her marginal utility of productive effort given by the expression on the RHS of [2a]. The term inside the curly brackets on the RHS of [2a] shows the marginal effect of the altruist's productive effort in increasing the expected level of beneficiaries' utility as a result of changing the amounts of X_1 and X_2 supplied. Weighting this effect by the parameter θ gives the altruist's marginal utility of productive effort. Clearly at the optimum, the altruist's marginal utility of revelatory and productive effort must be equal, which is confirmed by the first order conditions which show that eq.[1a] = eq.[2a].

- **Altruist working for a public agency**

$$[1b] \quad -(1-\theta)2[e^r + e^p] = \quad -\theta\left\{X_1^{\hat{h}} \exp^{(\ln_e X_2)\hat{j}} \ln_e X_2 \frac{\partial \hat{j}}{\partial e^r} + X_2^{\hat{j}} \exp^{(\ln_e X_1)\hat{h}} \ln_e X_1 \frac{\partial \hat{h}}{\partial e^r}\right\}$$

$$[2b] \quad -(1-\theta)2[e^r + e^p] = -\theta\left\{\hat{j} X_1^{\hat{h}} X_2^{\hat{j}-1} \frac{\partial X_2}{\partial e^p} + \hat{h} X_2^{\hat{j}} X_1^{\hat{h}-1} \frac{\partial X_1}{\partial e^p}\right\}$$

If the altruist is employed by a public agency, then she does not obtain a warm glow from her work and λ = 0. The corresponding first order conditions are shown as eqs.[1b] and [2b]. As when the altruist works for the NGO, the marginal utility of revelatory and productive effort must be equal, which is confirmed by the first order conditions which show that eq.[1b] = eq.[2b].

- **Egotist**

The egotist is indifferent as to how his total amount of effort is allocated between revelatory and productive work, because the beneficiaries' welfare is not an argument in his utility function.

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